

Title (en)
Low-voltage electrosurgical apparatus

Title (de)
Niedrigspannungs elektrochirurgisches Gerät

Title (fr)
Dispositif électrochirurgical à basse tension

Publication
EP 1082945 A1 20010314 (EN)

Application
EP 00307115 A 20000818

Priority
US 39328799 A 19990910

Abstract (en)
Low-power, low-voltage electrosurgical apparatus providing three current unipolar modes whose circuitry for generating the modulation signals needed to implement the three current modes employs no microcontroller but generates the modulation waveforms using a oscillator-binary counter and dual multiplexers, integrated components (ICs) that are of relatively low cost. Safety features can be incorporated by including a timer circuit cooperating with the binary counter to provide power to the IC components and avoid overheating of the apparatus. The oscillator-binary counter component is used to generate at plural outputs plural series of digital pulses at various frequencies, some of the pulse series being used to generate approximate sine-waves that can be employed for the cut/coag and hemo modes, and others of the pulse series being employed to operate a timer, indicator lights, and an audible warning system. <IMAGE> <IMAGE>

IPC 1-7
A61B 18/12

IPC 8 full level
A61B 18/12 (2006.01)

CPC (source: EP US)
A61B 18/12 (2013.01 - EP US); **A61B 18/1206** (2013.01 - EP US); **A61B 2018/0066** (2013.01 - EP US)

Citation (applicant)
• US 3730188 A 19730501 - ELLMAN I
• US 4463759 A 19840807 - GARITO JON C [US], et al

Citation (search report)
• [A] EP 0332308 A2 19890913 - BRISTOL MYERS CO [US]
• [A] US 5290283 A 19940301 - SUDA MASAO [JP]
• [A] EP 0368532 A2 19900516 - SMITHS INDUSTRIES PLC [GB]
• [A] WO 9639088 A1 19961212 - VALLEYLAB INC [US]
• [A] US 4473075 A 19840925 - REXROTH FREDERICK W [US]

Cited by
US8286339B2; US8460291B2; WO2007067522A3; US8396806B2; US10314563B2; US8454600B2; US8622907B2; US8753341B2; US9375204B2; US8182480B2; US8328804B2; US8652121B2; US8696650B2; US8808287B2; US9028490B2; US10912541B2; US11564732B2; US7976540B2; US8133218B2; US8231615B2; US8475446B2; US8795195B2; US8882760B2; US9750558B2; US10172664B2; US10278763B2; US10687733B2; US8444641B2; US8764741B2; US9408664B2; US9517104B2; US9750557B2; US10517663B2

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 1082945 A1 20010314; EP 1082945 B1 20041117; DE 60015881 D1 20041223; DE 60015881 T2 20051103; US 6238388 B1 20010529

DOCDB simple family (application)
EP 00307115 A 20000818; DE 60015881 T 20000818; US 39328799 A 19990910